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ABSTRACT

Young children's natural processes of language acquisition, the ways they learn a second language, and guides for teaching children a second language are discussed. Topics addressed include social influences on language acquisition, code-switching in bilingual communities, and the relationship of enculturation and acculturation to the development of bicultural competence. In addition, children's development of metalinguistic awareness in their second year, the influence of first language acquisition on second language acquisition for children 2 years of age or older, vocabulary acquisition, peer influence on language learning, and children's language use in the context of social interaction are explored. Four hypotheses that have been proposed to account for observed differences in children's ability to become bilingual in educational contexts are reviewed. Concluding sections of the paper offer three basic principles which underlie the teaching of a second language to young children and 10 guidelines for teaching second language learners. Directions for future research are indicated.
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THE DEVELOPMENT OF BILINGUAL AND BICULTURAL COMPETENCE IN YOUNG CHILDREN

Muriel Saville-Troike

Millions of children in the world are acquiring one language as their 'mother tongue' and subsequently learning another, either informally as they come into contact with children and adults who speak it, or as they receive second language instruction in the early years of formal schooling. Millions more are acquiring two or more languages simultaneously in early childhood as part of the natural consequence of being members of bilingual families and communities, or of having caretakers who speak different languages.

A number of questions which are related to the process of acquiring more than one language in childhood have been explored in recent years; the answers suggested thus far have important implications for all who work with children who come from linguistically and culturally diverse backgrounds, and for early childhood program development. Questions include the relationship of language and cognitive development, differences between simultaneous and sequential language acquisition, the effects of age on second language learning, and the relationship between bilingualism and biculturalism. Additionally, a number of factors have been identified which may either inhibit or contribute to the successful development of bilingual and bicultural competence in young children.

Nature and scope of the process

The capacity to learn language is innate, and the groundwork for its development begins to be laid with infants' earliest contacts with other human beings and with their environment. Children begin to understand and

then use the language(s) spoken around them because of the systematic relationship between what they hear and what is going on in the regularities and rituals of their early socialization experiences (cf. Cook-Gumperz, 1977; Halliday, 1975). Despite the great diversity in child-rearing practices and contexts, and the many differences in the structures they hear, children around the world learn whatever language is spoken by their caretakers at remarkably the same rate and in the same sequence (cf. Saville-Troike, 1982, for a survey of research on first language development).

By the time children are seven or eight years old, they have mastered the phonological system of whatever language has been regularly spoken around them, its basic grammatical forms (the syntactic system), and the ways in which utterances are sequenced or interact with those of others (the discourse system). They have also learned how to use language for a wide variety of purposes (pragmatics), and how to follow such sociolinguistic rules as when to speak and when to remain silent, and how to talk appropriately to persons of different statuses and roles. Developing bilingual competence entails acquiring these communicative skills in two languages, and knowing how and when to switch from one to the other.

Language acquisition is greatly affected by social circumstances. Children growing up in bilingual communities which are largely segregated (such as many of those which exist in England and the United States) may not have encountered models or social support for the use of the 'standard' variety of either language (or perhaps even for a nonstandard native monolingual variety). Nevertheless, the varieties of language these children learn are as logical and systematic as any other, and are affectively more appropriate for use with family and friends than the 'foreign' language of

school will ever be. Claims have sometimes been made that such children are 'alingual' because they do not speak a standard variety of any language, or because they code-switch between two different languages, but these ideas are based on misconceptions about the nature of language and linguistic diversity.

Code-switching in bilingual communities is commonplace and in fact constitutes the norm in many cases. The phenomenon of code-switching can probably best be understood as a sensitive process of signalling different social and contextual relations through language. The children may be exposed to the ancestral language if there are grandparents in the home, but one or both parents may use primarily the national language (if it is different), or switch from one to the other as a means of signalling closeness and informality. Such switching is likely to be most frequent between parents and their bilingual friends. The 'standard' monolingual form of either language is generally used only for more formal 'public' relations, and thus is less likely to be encountered by young children at home. In any event, code-switching is a highly developed linguistic skill which is normally acquired only in a 'natural' learning setting, and rarely in formal school settings or by adults.

Language and socialization

The language which children learn at home is normally part of the native culture they are acquiring in the process of enculturation, or socialization.[1] It also serves to transmit other aspects of that culture from one generation to the next, including values, beliefs, and rules for social behavior. This intrinsic relationship of language to culture operates at an unconscious level for the most part, furthered by informal means more than

by formal education, and by family and peers more than by professional educators.

Systems of formal education are themselves cultural inventions. The American, Canadian, and British educational systems, like many others, serve primarily to prepare middle-class children to participate in their own culture. Children who come into the system from other cultures or subcultures, including the lower social classes, have generally been considered 'disadvantaged' or 'deficient' to the degree that their own cultural experiences differ from the mainstream middle-class 'norms'. A number of early childhood programs have been based primarily on this rationale, and serve to provide middle-class cultural experiences to children who have been 'deprived' of them. However, such programs often fail to recognize the existence and validity of the culture which the children bring with them. As a result they violate the precept to accept these children where they are, and build on their existing strengths, in the process of attempting to add a second culture.

Children from non-English language and cultural backgrounds must learn the rules of the dominant culture which differ from their first if they are to 'succeed' within its institutions and according to its values. This process of adding a second set of rules for behavior (which may coexist beside the first, replace them, or modify them) is called acculturation. One possible result of acculturation is loss of the native culture or the merger of cultures until they are indistinguishable, or assimilation. Another possible result is the selective maintenance and use of both cultural systems--biculturalism.

The learning of culture, like the learning of language, begins with children's first experiences with the family into which they are born, the

community to which they belong, and the environment in which they live. By the time children begin their formal education, they have already internalized many of the basic values and beliefs of their native culture, learned the rules of behavior which are considered appropriate for their role in the community, and established the procedures for continued socialization; they have learned how to learn.

A major hazard in adding a second culture is that children may reject parts of their native culture without knowing or accepting comparable parts of the second, or that they will find themselves repeatedly facing cultural interference as the rules or values of one culture conflict with the other in a single situation or domain. When this happens, either one culture 'wins', or children must deal with emotional and cognitive stress, frequently producing feelings of inferiority or anomie.

The eventual goal for bicultural competence in minority group children can be a positive attitude toward both cultures, with a healthy balance between the two. Schools must learn more about the cultures which such children bring to school, in order to minimize potential conflict and provide a basis for adapting the curriculum to meet their learning needs. They must learn what is necessary for successful achievement in school and in the dominant society, but this need not be taught at the expense of their own culture and identity. Values, beliefs, and behaviors of the dominant culture in such domains as religion and family life may only need to be learned for passive recognition and understanding, but not necessarily adopted for active use.

Language and cognitive development

The relationship between language acquisition and cognitive development has long been of interest, although there is still not agreement about its

nature nor about how it may differ for monolingual vs. bilingual children. One basic perspective is that of Piaget (1926) and his followers, that cognitive development occurs before and quite independently of language development (cf. Bloom, 1973; Greenfield & Smith, 1976). An alternative perspective from Vygotsky (1934) and Luria (1959) is that the development of logical thought is dependent on the internalization of speech. It is the latter perspective that most clearly supports hypotheses that bilingualism in children (positively or negatively) influences their cognitive development.

Insofar as linguistic experiences may facilitate cognitive development (Cummins, 1976), or as children use language at least in part to construct their conceptual framework (Halliday, 1975), the possibility that bilingualism influences cognitive development is not necessarily incompatible with either perspective on the relationship. Further, when we consider such cognitive processes as perception, memory and recall, and categorization, the effects of both language and cultural experiences are rather generally recognized (cf. Cole & Scribner, 1974). The key question remains, however, whether learning two languages in childhood has a different effect than learning one, and if so, whether the effect is positive or negative.

Many early studies of the relationship between bilingualism and measured intelligence reported that bilingualism inhibited cognitive development (cf. Darcy, 1953 for a review of the literature), but these were generally conducted without control for socioeconomic status, and often with intelligence tests administered through the medium of the bilingual subjects' weaker language. They have appropriately been discounted. Many recent studies, on the other hand, report that bilingualism in childhood can

accelerate the development of both verbal and nonverbal abilities (Peal & Lambert, 1962), cognitive flexibility (Ianco-Worrall, 1972), or divergent thinking skills (Landry, 1974). Some of these studies in turn may be faulted for not controlling extralinguistic variables, but it is reasonable to conclude that acquisition of two languages in early childhood in no way impedes cognitive development, and may indeed enhance it.

Evidence remains mixed concerning the effect of second language learning on cognitive development and school achievement if extensive exposure begins beyond the age of four or five years. Some (particularly middle-class) children placed in bilingual learning contexts become very successful bilinguals, but others (particularly from subordinated minority groups) do not develop full competence in either language, and do not succeed in school. Four major hypotheses have been proposed to account for this apparent discrepency, and all four may identify factors which affect the development of bilingual and bicultural competence.

The first involves the nature of the social milieu within which learning takes place, and the relative status of first vs. second language in that context. Lambert's (1975) distinction between 'additive' and 'subtractive' bilingualism is crucial here. Additive bilingualism occurs in situations where the child is a member of the dominant social class, speaks its language natively, and encounters positive attitudes and support from family and community for its continued use and development; the second language is successfully added with no negative effects on first language competence, as in the Canadian programs which 'immerse' English speaking children in French (cf. Swain, 1978). Subtractive bilingualism occurs in situations where the child is a member of a minority group, does not encounter social

support for continued use and development of the native language, and experiences a variety of acculturative forces; as the second language is less successfully added, first language competence is decreased, as in U. S. and British programs which 'submerge' minority language children in English. The negative result in terms of the development of academic and cognitive skills is not due merely to language factors, but involves such intervening variables as social status, attitudes, language functions, and self identity.

The second hypothesis suggests that different stages of cognitive development may be involved: i.e., children who are in the early concrete operational period (6-8 years old) have more difficulty learning a second language than either younger or older children, yet these are precisely the years where second language teaching is concentrated for children whose first language is not the language of the school. Folk wisdom in this society has held that children have an advantage over older students in second language learning, but research does not support this conclusion (cf. Ervin-Tripp, 1974; Fathman, 1975; Snow & Hoefnagel-Höhle, 1978); older children and adolescents learn both grammatical rules and vocabulary more efficiently.[2]

The third is the <u>developmental interdependence</u> hypothesis proposed by Cummins (1979), which suggests that second language development is partially dependent on the level of first language competence which has already been reached. Related is his <u>threshold</u> hypothesis, which proposes that 'there may be threshold levels of linguistic competence which bilingual child must attain both in order to avoid cognitive deficits and to allow the potentially beneficial aspects of becoming bilingual to influence their

cognitive growth' (1979:229; see also Cummins, 1976). The basis for this hypothesis includes evidence on Finnish immigrant children in Sweden that native language education at least through the age of ten is important for successful academic achievement in a second language (Skutnabb-Kangas & Toukomaa, 1976), and similar results have been found for native speakers of Navajo and Spanish in the U. S. (Troike, 1978). These effects do not apply for children from middle-class backgrounds and dominant or prestigious first language experiences, which relates to the concept of additive vs. subtractive bilingualism presented above.

Sociolinguistic factors may be further involved because of the effect they have on the types of cognitive development that school curricula foster and reward. The school, after all, is a cultural institution, and the forms of thinking that it inculcates, as well as the forms of language which are used as a medium of instruction, are culture-specific. There is greater congruity between the language used in the home background of middle-class children and that used at school than between the latter and the home language background of lower-class children. Children's failure in school may thus be in part the result of their failure to acquire the culture-specific language structures and discourse forms used in the schools to mediate the teaching of cognitive skills.

This perspective is carried still further in a fourth hypothesis, which is that since procedures and content for both teaching and testing are in themselves cultural artifacts, levels of 'cognitive development' and 'school achievement' are primarily measures of acculturation to middle-class knowledge and language use (Troike, 1981). The fact that non-English speaking children from middle-class backgrounds may do better in school than native English

English speaking children from lower class backgrounds suggests the importance of culture as a factor in school achievement.

Children who learn two languages simultaneously in early childhood are probably also being socialized quite naturally into a bilingual community, or into the two cultures these languages reflect; children from the dominant social group do not experience rejection of their native culture, and pressures for acculturation, even though some children may become bicultural as well as bilingual. It is only children from subordinate groups who face the combination of (1) cultural discontinuity between contexts of first and second language development, and (2) generally negative attitudes and expectations from peers and teachers, who encounter such a negative learning environment. That primary-age children tend to do even less well in such a situation than older students may be an indication of their greater vulnerability.

The answer to the question of whether learning two languages rather than one in childhood has a different effect on cognitive development is: 'probably'. Assuring that this difference becomes a positive one for minority group children who are currently in a situation of subtractive bilingualism entails above all assuring that these children are not subjected to a negative valuation of their native language and culture.

Language learning

The process of simultaneous development of two or more languages in early childhood is initially the acquisition of a single system, which then becomes differentiated according to the context in which the languages are being used. If they are clearly separated in the environment--used by

different people, or used in different situations--even early interference between the two is minimized (cf. McLaughlin, 1978 for a review of research on this topic). When children grow up in a bilingual environment where both languages are used by the same people and switching between languages is common, discrimination between the codes is a later development (cf. Huerta, 1977; McClure, 1977).

Children's metalinguistic awareness that they are speaking different languages also develops at a very early age in those situations where languages are kept separate by speaker or situation. One of the earliest reports is from Ronjat (1913) about his own son's acquisition of French and German, which the boy distinguished as comme papa and comme mama at the age of only 1 year 8 months. Young Louis Ronjat may have been somewhat precocious, but other studies confirm there is conscious differentiation during the second year (e.g. Burling, 1959; Imedaze , 1967; Leopold, 1949).

When children begin learning a second language after they are two or three years old, the process is influenced by what they have already learned about their first language. The same general principles of language acquisition apply, however. Just as a child learning English natively will say eye, eyes; hand, hands; and then foot, foots, for instance, second language learners (unconsciously) induce rules and regularities from their linguistic input, and then overgeneralize them as they begin using language creatively. If their native language does not include the grammatical/semantic notion 'plural', they are likely to encounter negative transfer or 'interference' in acquiring it in English, and the rule may develop later than if they had already learned to express the concept (even though it was by means of

a very different linguistic form). The English plural is also likely to develop later (and perhaps inconsistently) if the first language did not have any s's or z's at the ends of words, or if it did not have any word final consonant clusters (cf. Hakuta, 1974; Keller-Cohen, 1981).

In spite of some of these transfer phenomena, the order in which grammatical structures are learned in a second language is generally quite similar regardless of the age of the learner or their native language (Dulay & Burt, 1972). However, even for young children, the order in which grammatical structures in English are learned is not the same when it is being learned as a second language as when it is being learned as a first (native) language (Cancino, Rosansky, & Schumann, 1974; Hakuta, 1974).

Whenever people encounter a new language they usually hear the sounds through the 'filter' of the first, and children learning a second language often go through a period of avoiding words which are 'hard' for them to pronounce. If they are interacting and making friends with young speakers of the second language, children soon begin to acquire native-like pronunciation, and outperform their parents in this aspect of developing bilingual competence. The importance of peer models in this process is highlighted by the fact that children usually learn the regional or social variety of the second language which is spoken by their new friends, rather than that spoken by the teacher or other adults whom they contact. One of my Spanish speaking kindergarten students first learned to speak English with a lisp, for instance, because his new best friend had just lost his front teeth, and Wolfram (1973) has documented that many Puerto Rican students in New York learn nonstandard Black English from their Black peers in the streets rather than the standard English which is modeled for them in school.

Some of children's acquisition of vocabulary in a second language is a matter of learning translation-equivalents of what they have learned in their first, but much is the process of learning new terms for new concepts and experiences. Their vocabulary may be differentiated by domain (e.g., words for things around the house may be known in one language, things around school in another), or by which language was used when they first encountered the concept (e.g., some colors or animals may have labels in one language, some in the other). It is common for differentiation by domain to be maintained even into adulthood, unless both languages are used in the same situations.

The natural process by which their children learned English through interaction with other children in nursery school is described by Yoshida and Huang in Hatch (1978). Common phrases (such as 'Get out of here!') were learned by rote and used in appropriate situations even though the meaning of the component words was not understood. Huang reports some misinterpretation, as when his son learned 'I'm finished' in the context of finishing painting, and then used it only for that specific situation and not when he finished doing anything else.

Children's ability to watch other children and follow their lead nonverbally often makes it appear that they understand more of the new language than they actually do. The many nonverbal cues provided by adults talking to young children also contribute to their ability to respond appropriately without understanding the verbal message, but often leads to an overestimation of when the children are ready to profit from verbal instruction exclusively in the second language.

Wong-Fillmore (1979) describes and evaluates the results of the social strategies used by first graders learning English in a linguistically heterogeneous class and concludes that their success depends largely on their ability to establish social contacts with the English speaking children. This interaction both provides the necessary input for language learning and allows them opportunities to use the language in meaningful contexts. In a study of native English speaking children in a Spanish-English bilingual program who spent a year in the program without improving their command of Spanish, Edelsky and Hudelson (1979) found the main factor to be that the native Spanish speaking children spoke only English with their English speaking peers (thus reducing their motivation and opportunity to learn Spanish).

The importance of motivation is illustrated anecdotally by the account of a Puerto Rican boy in a first grade bilingual program in New York who was English dominant and who throughout the year steadfastly resisted efforts to develop his Spanish ability. When an attractive Spanish speaking girl entered the class in the second grade, however, he took a great interest in her, and his Spanish fluency took great strides in a remarkably short time.

In addition to the important contribution of peer interaction to second language development, peer influence can also be seen in the reluctance of some children to continue using their first language in the presence of friends who speak only the second, and even embarassment if their parents continue to do so. The development and maintainence of balanced bilingual competence is best fostered when both home and school provide a positive, supportive environment. Parents who have been upset by linguistic rejection

from their preschool children have reported renewed acceptance if their children enroll in a bilingual program and learn that other children and adults also speak two languages.

Language teaching

Many children can and do learn a second language without explicitly being taught, but educators cannot assume that they will 'catch' one by mere exposure, like the measles or chicken pox. This sort of 'osmosis' often does seem to happen when isolated children are immersed in a foreign language, as when a single family moves to another country, but sizable groups of non-English speaking children in the United States who were required to 'sink or swim' in English-only instruction have proved it is quite possible to tread water through years of exposure to a language without acquiring fluency in comprehension or use. That 'method' has failed, and should not be revived. Thanks to the Lau vs. Nichols decision by the Supreme Court in 1974,[3] such treatment is not even legal in the U. S. today.

The following are basic principles which underlie the teaching of a second language to young children (adapted from Saville-Troike, 1975):

a. All children, whether from wealthy or severely impoverished backgrounds, can benefit from language enrichment experiences. No normal child from any cultural or social group lacks a well developed linguistic system, and no program should be based on the assumption that children from any group lack a viable language.

b. The language and culture of the day care center, nursery school, or kindergarten should be compatible with that of the children's homes, allowing them to develop consistent self-identity and secure self-images. New elements should of course be added to children's experience, but these should be selected and presented to avoid conflict.

c. A positive self image can be most surely fostered in a situation which emphasizes acceptance of the child's native speech and avoids depreciating it and native cultural values.

The foregoing principles are perhaps most succinctly expressed in the maxim 'Accept the child where he is'. They may be summarized in the 'First Commandment' for all education, recognize and accept children's previous linguistic, conceptual, and cultural experience as a base on which to build, rather than as a handicap to further learning.

Another relevant aphorism is that 'Nothing succeeds like success', because the converse is also true. If children who come from diverse cultural and linguistic backgrounds are penalized for their prior learnings, failure becomes a patterns of expectation for child, parents, and teachers alike. This destroys motivation and alienates children from formal learning experiences. Many of the 'problems' of minority group children are not theirs, but are caused by failures of adults (even from their own social group) who evaluate them only in terms of expectations of the majority culture.

Although research on second language development does not yet offer definitive answers on how best to teach young children, the following practices have been supported by both research and experience:[4]

1. Language input for second language learners should be fairly natural, but consistent and simplified. It is not necessary nor desirable to use strictly graded instructional material, but some control of vocabulary and grammar contributes to learning. For example, blue and green should be mastered before aqua, turquoise, and chartreuse are introduced, and directions and descriptions should be given in short, simple sentences.

2. Input must have meaning. Words for objects and actions that can be displayed or demonstrated are much easier to teach and learn than terms for more abstract concepts. The children's native language should be used whenever it will help clarify meaning in the second. The emphasis in instruction shall be on assuring understanding.

3. In natural language acquisition, children first use words for things that capture their attention and interest them, and this same principle applies to second language teaching.

4. Focus in language development activities should usually be on what is being talked about, and not on the language forms being used. This holds true for second language learners of all ages, but is particularly important for young children.

5. Opportunity for review and repetition should be provided, but only in meaningful contexts: i.e., meaningless drill does not contribute to language development. Meaningful repetition is assured when the language being learned relates to objects and activities which will be encountered on a regular basis, and when expressions associated with 'ritual' events are repeated: e.g., if clean up time is introduced by 'It's time to clean up now' on one day, the same sentence should be used the next day rather than variations like 'Let's put our things away' or 'I'd like to see a neat room now'.

6. It is beneficial to prompt children with the right words to express what they are trying to say, but grammatical 'errors' should not be corrected when a child is trying to communicate ideas or feelings. Fluency and willingness to talk are most inhibited by correction of pronunciation, and it is most important not to treat the natural early transfer of first language phonology to the production of the second as if it were a 'speech impairment' or 'language disability' of any kind.

7. Oral production on the part of children is not necessary for language learning to take place; its primary value is probably in stimulating input fromothers. Shy children, or children whose culture dictates against trial and error performance, should not be forced to speak. Natural language acquisition usually involves a period of silent assimilation.

8. Language learning activities should if at all possible include opportunities for children learning a second language to interact with children who are native speakers of that language (which can include cross-age peer tutoring).

9. Reading ability is the most significant instrumentality for achievement in Western educational systems. This is greatly dependent on preliteracy experiences which transmit concepts of the functions of literacy. High priorities in early childhood education for children from families which do not have a literate tradition must be to develop concepts of these functions, and to help parents provide the kinds of home experiences which will contribute to learning to read.

10. While the importance of 'reading readiness' remains controversial in early childhood education, the importance of early reading competence to overall achievement in school and reading achievement levels in later childhood is well documented (cf. Christian, 1976; Durkin, 1966; Lado & Andersson, 1976; Lado, Hanson, & D'Emillio, 1980). Reading is learned only once, so requisite concepts and skills should be developed first in the language children understand best, and they will subsequently transfer their skills to their second language with little or no instruction. If bilingual education is not an available option, there is no reason to postpone reading experiences in the second language beyond the time considered 'normal' for children who speak it natively.

Future directions for research

Research evidence still remains largely inadequate on a number of key points, including such matters as: (a) the relationship of bilingualism and cognitive development; (b) the relationship of larger aspects of social environment and culture on language learning; (c) the relationship of language learning to other aspects of enculturation or acculturation; (d) similarities and differences between first and second language acquisition; (e) the extent to which and under what circumstances success in learning through the medium of a second language is dependent on level of development in the first; (f) language learning strategies in children vs. adults; and (g) the relative effectiveness of particular methods for teaching a second language.

With respect to the last topic (g), as for all others, it seems likely that no single identified method will be consistently found to be better than another when diverse groups of students are evaluated. Research design in this field has generally been overly simplistic, and the many known variables have not been adequately taken into account. The success of particular methods and even models for curriculum organization is likely to prove relative to particular social and cultural settings and to particular sociocultural and psychological characteristics of students. This relativistic perspective is probably necessary for assuring the validity of any research which involves such a linguistically and culturally diverse population.

An example of cultural differences in child-rearing practices influencing the appropriateness of different language teaching methodology can be found in a California study which taught English as a second language to five and six year old Spanish-speaking children from families of farm laborers.[5] The

project--in which males learned significantly more English than females--made extensive use of games and physical activities. Most of the boys in this population had been allowed considerable freedom at home while their parents were working in the fields, and at school they were extroverted, enthusiastic about trying new games, ready chance-takers and not inhibited about making mistakes. In accordance with traditional culture and socialization patterns, most of the girls in the population had been confined to the house and given responsibility for the care of younger siblings, even when they were only young children themselves. At school they were appropriately introverted, shy, and inhibited about trying new activities (thus exhibiting signs of a higher 'affective filter').

It can be hypothesized that the poorer second language performance of the girls was at least partially attributable to inappropriate teaching methods (which followed the best 'linguistically-approved' methods of the time). But if the program design had taken into account the different sociocultural and psychological characteristics of the children by differentiating methods according to sex, and perhaps by assigning boys and girls to separate treatment groups to obviate the effects of the intervening variable of cultural taboo on girls' behavior, the language learning opportunity might have been equalized, and the language learning differential might well have disappeared. Such hypotheses can and should be tested.

Obviously not all sociocultural, psychological, and instructional variables can be controlled for research purposes, but unless they are at least accounted for, no amount of accumulation of 'data' on second language development will provide an answer to a critical question: Who learns what best under what circumstances? Small controlled studies can certainly

contribute to our understanding, but their contribution is severely limited when they do not provide enough information about the subjects and the context of instruction for their results to be fitted into a cumulative picture.

It would be more convenient if we were dealing with a 'neater' subject matter, but ignoring complexities which we know to be present must predictably yield simplistic and invalid results. Discovering which of these complexities are not significant for second language development and may thus be ignored is a matter to be decided by empirical research, not by a priori assumption or convenience.

Research design for experimental studies should either: (a) be complex enough to include a wide range of psychological and sociocultural characteristics (of children, teachers, care-taking and educational institutions, and community) as independent variables, and a variety of carefully analyzed treatment conditions (methods, materials, and programs) as dependent variables, or (b) be of more limited scope, but have variables carefully described (and controlled for insofar as possible) so that the results may contribute cumulatively to a larger complex grid.

All of the other research topics mentioned in relation to the development of bilingual and bicultural competence in children may also be expected to involve complex sociocultural factors. Ethnographic methods should therefore be utilized for qualitative and in-depth descriptions of the dynamics of various language development situations under different conditions as a necessary complement--and in many cases, prerequisite--to quantitative studies. Because of the paucity of data collected in the past, and the

inadequacies of much previous data collection for answering the new generation of research questions which have arisen, the field to all intents and purposes remains in its infancy. Research on a variety of languages and settings is urgently needed to contribute to our still very limited state of knowledge in this complex field.

Footnotes

[1]The following discussion of culture is adapted from M. Saville-Troike, Culture in the Classroom. Rosslyn, Virginia: National Clearinghouse for Bilingual Education (1978).

[2]The folk notion that young children learn a second language more easily may be due in part to the lower criteria we have for judging them 'competent', and in part to young children's greater willingness to try using whatever they know.

[3]The Supreme Court of the United States ruled in favor of Kinney Lau, a limited English speaking student, who had brought suit against Alan H. Nichols et al. of the San Francisco school system. Mr. Justice Douglas delivered the opinion of the court, saying in part that ' ... there is no equality of treatment merely by providing students with the same facilities, text books, teachers, and curriculum', and mandating 'appropriate' instructional intervention (e.g. ESL and bilingual education).

[4]Specific instructional activities are suggested in M. Saville-Troike, Foundations for Teaching English as a Second Language. Englewood-Cliffs, New Jersey: Prentice-Hall (1976).

[5]This study, in which I participated, was one of the USOE cooperative reading research projects, and was conducted in Fresno County, California during 1964-65 with a population of over 200 Spanish speaking kindergarteners. It was directed by John Manning and Fred Brengelman; I was responsible for preparation of all instructional materials, demonstration of teaching methodology and supervision of instruction for the duration of the project, and thus must take responsibility for any inappropriateness in the methods which I report.

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